

What is claimed is:

1. A hinge structure, comprising:

5       a pivot shaft being provided at a first end with  
a mounting section for connecting to a mainframe  
of a clam-type electronic apparatus, and at a second  
end with a shaft section having a tightening section  
provided at a free end thereof;

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a bracket having a first arm serving as a mounting  
arm for connecting to a screen of said clam-type  
electronic apparatus, and a second arm normal to  
said first arm; said second arm being provided at  
15       a predetermined position with a shaft hole for  
rotatably engaging with said shaft section of said  
pivot shaft;

a fastening member; and

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at least one external tooth washer located between  
said bracket and said fastening member, and provided  
along an outer circumference with a plurality of  
radially outward projected external teeth;

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said bracket and said at least one external tooth washer being sequentially mounted on said pivot shaft and said fastening member being screwed to said tightening section at the second end of said pivot shaft to form said hinge structure;

whereby when said mounting section of said pivot shaft and said mounting arm of said bracket are connected to said mainframe and said screen, respectively, of said clam-type electronic apparatus, said external teeth of said at least one external tooth washer are firmly and elastically compressed between said bracket and said fastening member mounted on said pivot shaft, and thereby prevent said fastening member from turning along with said screen when said screen is pivotally turned, or separating from said pivot shaft after said screen has been pivotally turned many times.

2. The hinge structure as claimed in claim 1, further comprising a locating ring, an oil ring, and a lugged ring sequentially provided between said pivot shaft and said second arm of said bracket; and a lugged ring, an oil ring, and a locating ring sequentially provided between said second arm of said bracket

and said at least one external tooth washer; each of said lugged rings being provided on a circumference thereof with a lug that is axially extended toward one side to be perpendicular to said lugged ring; and said bracket being formed on said second arm to an inner side of said shaft hole with a receiving hole corresponding to said lug on said lugged ring, such that said two lugged rings are separately located at two opposite sides of said shaft hole on said second arm of said bracket with said lugs extended into said receiving hole from two opposite sides of said receiving hole.

3. The hinge structure as claimed in claim 2, further comprising a locating ring and at least one flat washer sequentially located between said at least one external tooth washer and said fastening member; and wherein said shaft section of said pivot shaft is provided at one side with a flat surface that serves as a swing-stop section, and said locating rings are provided at an inner circumference with a straight section corresponding to said flat surface of said swing-stop section; whereby when said straight section of said locating ring is engaged with said flat surface of said swing-stop

section of said pivot shaft, said locating ring is fixedly located on said pivot shaft at said shaft section.

5     4. The hinge structure as claimed in claim 1, wherein  
said tightening section on said pivot shaft is  
provided on an outer surface with screw threads,  
and said fastening member comprises a nut  
corresponding to said screw threads for said  
10   fastening member to screw to said tightening  
section.

5. A hinge structure, comprising:

15   a pivot shaft including a shaft section, said shaft  
section being provided at one side with a flat surface  
to serve as a swing-stop section and at an end with  
a tightening section;

20   a first bracket including a mounting arm for fixedly  
mounting to a mainframe of a clam-type apparatus,  
and a locating arm perpendicular to said mounting  
arm; said locating arm being provided near a free  
end with a swing-stop hole for engaging with said  
25   swing-stop section of said shaft section of said

pivot shaft, so that said first bracket is prevented from turning relative to said pivot shaft;

5 a second bracket including a mounting arm for mounting to a screen of said clam-type apparatus, and a second arm perpendicular to said mounting arm; said second arm being provided at a predetermined position with a shaft hole for said shaft section of said pivot shaft to rotatably mount therein;

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a fastening member; and

at least one external tooth washer located between said second bracket and said fastening member, and provided along an outer circumference with a plurality of radially outward projected external teeth;

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said first and said second bracket and said at least one external tooth washer being sequentially mounted on said pivot shaft and said fastening member being screwed to said tightening section of said pivot shaft to form said hinge structure;

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25 whereby when said mounting arm of said first bracket

and said mounting arm of said second bracket are connected to said mainframe and said screen, respectively, of said clam-type electronic apparatus, said external teeth of said at least one external tooth washer are firmly and elastically located between said second bracket and said fastening member mounted on said pivot shaft, and thereby prevent said fastening member from turning along with said screen when said screen is pivotally turned, or separating from said pivot shaft after said screen has been pivotally turned many times.

6. The hinge structure as claimed in claim 5, further comprising a locating ring, an oil ring, and a lugged ring sequentially provided between said first and said second bracket; and a lugged ring, an oil ring, and a locating ring sequentially provided between said second bracket and said at least one external tooth washer; and wherein each of said lugged rings is provided on an outer circumference with a lug that is axially extended toward one side to be perpendicular to said lugged ring; and said second bracket being formed on said second arm to an inner side of said shaft hole with a receiving hole corresponding to said lug on said lugged ring, such

that said two lugged rings are separately located at two opposite sides of said shaft hole on said second bracket with said lugs extended into said receiving hole from two opposite sides of said receiving hole.

7. The hinge structure as claimed in claim 6, further comprising a locating ring and at least one flat washer sequentially located between said at least one external tooth washer and said fastening member; and wherein said locating rings are provided at an inner circumference with a straight section corresponding to said flat surface of said swing-stop section on said pivot shaft; whereby when said straight section of said locating ring is engaged with said flat surface of said swing-stop section of said pivot shaft, said locating ring is fixedly located on said pivot shaft at said shaft section.

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8. The hinge structure as claimed in claim 5, wherein said tightening section on said pivot shaft is provided on an outer surface with screw threads, and said fastening member comprises a nut corresponding to said screw threads for said

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fastening member to screw to said tightening section.

9. The hinge structure as claimed in claim 5, further  
5 comprising a locating ring and a sleeve provided  
between said fastening member and said at least one  
external tooth washer, and a torsional spring  
provided between said sleeve and said fastening  
member; and wherein said first bracket is provided  
10 near a center thereof with a swing-stop hole for  
engaging with said swing-stop section of said shaft  
section of said pivot shaft; through holes being  
provided on said first bracket below said swing-stop  
hole; and wherein said mounting arm of said second  
15 bracket is provided at a predetermined position with  
a retaining tongue; said torsional spring including  
two legs and being mounted on said pivot shaft with  
one of said two legs extended through said through  
holes on said first bracket, and the other one of  
20 said two legs held to said second bracket by said  
retaining tongue on said mounting arm of said second  
bracket, such that said torsional spring provides  
an increased elastic force for said hinge structure  
when said screen is pivotally turned upward.

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